

Remarks

Claims 1 through 6 and 9 through 18 are now pending

Claim 7 and 8 have been cancelled and claim 1 has been amended in response to the Examiner's observations under 35 U.S.C. Section 112, second paragraph.

The Rejection

The following patent publications have been relied upon to reject the Applicants claims:

U.S. Patents

6,046,266	Sandstrom et al (Sandstrom '266)
5,753,761	Sandstrom et al (Sandstrom '761)
2,592,557	Gibbs
917,612	Kempshell

Foreign Patent Publications

Japan JP 3-31008	Japan '008
Germany DE2,744,848	German '848

Other

WO 99/52720	Brown, et al (Brown)
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The Applicants' claims 1 through 18 have been rejected under 35 U.S.C. Section 103(a) over Sandstrom '266 in view of Japan '008, German '848, Kempshell, Gibbs or Brown and further in view of Sandstrom '761. The rejection is traversed with a request for reconsideration.

Non-Statutory Double Patenting Rejection

Claims 1 through 18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over various claims of co-pending application SN 09/260,815 in view of Sandstrom '266 or Thise (USP 5,284,989).

Co-pending application SN 09/260,815 may be expressly abandoned, pending otherwise allowable claims being found for this instant patent application. When and if such express abandonment of the co-pending application is made, and confirmation received, this instant application is to be amended to reflect that application SN 09/260,815 is abandoned.

The Invention

The Applicants' claimed invention is directed to significantly combined aspects of a tire tread and sidewall. In particular, the claimed invention is directed to:

(A) A tire with a lug and groove configured tread with an included lug and groove configured sidewall, combined with

(B) Significantly different rubber compositions for the lug and groove configured tread and for the lug and groove configured sidewall.

Therefore, the Applicants' claimed invention is not simply directed to a combination of lug and groove configured tread together with a lug and groove configured sidewall. Instead, the Applicants' claimed invention requires such combination together with significantly separate and different rubber compositions which is an important essence of the Applicants' claimed invention.

Accordingly, it is important to appreciate that the Applicants' claimed invention is directed to a combination of structurally configured tire tread and sidewall together with significant rubber composition limitations. More specifically, the lug and groove configured sidewall is required to be composed of selected elastomers, to the exclusion of various other elastomers, and required to contain a reinforcing filler combination of defined carbon black, precipitated silica and coupling agent.

In contrast, the adjoining lug and groove configured tread is required to contain a carbon black based reinforcing filler which excludes precipitated silica and coupling agent. Moreover, the carbon black required by the configured tread rubber composition is significantly different from the carbon black of the sidewall rubber composition. In particular, the lug and grooved sidewall rubber composition is composed of:

(A) Cis 1,4-polyisoprene natural rubber and cis 1,4-polybutadiene rubber

(B) reinforcing filler as

(1) From about 5 to about 40 phr of carbon black with Iodine value of about 35 to about 85 g/kg (to the exclusion of carbon blacks having an Iodine value greater than 85 g/kg) and a DBP value of about 70 to about 130 cm³/100g,

(2) from about 10 to about 70 phr of precipitated silica, and

- (3) coupling agent.

In contrast, the lug and groove configured tread is of a rubber composition composed of:

- (A) diene-based elastomer(s) (which are not limited to the cis 1,4-polyisoprene natural rubber and cis 1,4-polybutadiene rubber required for the lug and groove configured tire sidewall);
- (B) reinforcing filler as
 - (1) from about 30 to about 95 phr of carbon black with Iodine value of about 100 to about 145 g/kg (clearly distinguished from the Iodine value of 35 to 85 g/kg required for the lug and groove configured sidewall) and a DBP value of about 70 to about 130 cm³/100g (clearly distinguished from the DBP value of 70 to 130 cm³/100g for the lug and groove configured tire sidewall)
 - (2) no precipitated silica, and
 - (3) no coupling agent.

Discussion

The Examiner has observed that the rubber composition of the Sandstrom '266 reference for a lug and groove configured tire sidewall is similar to, and many respects the same as, the lug and groove configured tire sidewall rubber composition of the Applicants' claims.

However, Sandstrom '266 does not teach or suggest the Applicants' required significantly two distinct and contrasting rubber compositions for the required lug and groove configured tire sidewall and for the lug and groove configured circumferential tire tread. Nowhere is it seen that Sandstrom '226 teaches or suggests, in combination with its lug and groove configured tire sidewall rubber composition, the significantly contrasting rubber composition for its associated lug and groove configured tire tread.

Accordingly, Sandstrom '266 is significantly and materially deficient for a purpose of rejecting the Applicants' claimed invention under the requirements of 35 U.S.C. Section 103(a).

The secondary Japan '008, German '848, Kempshell, Gibbs and Brown references are

cited to show tires having tire sidewalls of various configurations of which at least a portion of such references relate to a tire sidewall of a lug and groove configuration. Such revelation is not the essence of the Applicants' claimed invention.

An essence of the Applicants' claimed invention is the use of significantly different rubber compositions for the lug and groove configured sidewall and for the lug and groove configured tread, the sidewall portion requiring both carbon black and precipitated silica reinforcement and the tread portion requiring carbon black reinforcement to the exclusion of precipitated silica. It is contended that such combination is a significant departure from past practice. Nowhere in any of the secondary Japan '008, German '848, Kempshell, Gibbs and Brown references is there taught or suggested the lug and groove configurations of the tread combined with the sidewall in which the tread rubber composition and sidewall rubber composition significantly differ from each other, particularly where the sidewall portion contains both precipitated silica and specified carbon black and the tread portion excludes precipitated silica reinforcement and requires carbon black reinforcement which is significantly different from the carbon black of the sidewall portion.

Accordingly, it is not seen that the secondary Japan '008, German '848, Kempshell, Gibbs and Brown references remedy the significant and material deficiencies of the aforesaid Sandstrom '266 reference, whether or not combined with such patent references.

Therefore, it is contended that a combination of the Sandstrom '266 with any or all of the secondary Japan '008, German '848, Kempshell, Gibbs and Brown references does not make out a prima facie case of obviousness of the Applicants' claims under the requirements of 35 U.S.C. Section 103(a).

Any simple substitution of the rubber composition of Sandstrom '266 for the rubber composition of any lug and groove configured sidewall of any of the secondary references, without any instruction to do so, particularly with the Applicants' requirement that the sidewall rubber composition contains both carbon black and precipitated silica (together with a coupling

agent) is considered herein as being speculative, particularly since most of the secondary references are not rubber composition definitive.

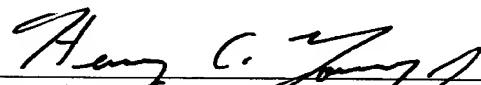
Any combination of a carbon black and silica reinforced rubber composition for a lug and grooved sidewall juxtaposed to a lug and groove tire tread of a rubber composition which excludes precipitated silica derived from any combination of the Sandstrom '266 and secondary references is also considered herein as being speculative and not taught to one having skill in such art in the absence of the Applicants' own specification and claims.

The Sandstrom '761 reference is apparently cited to show use of silica in a tire tread which the Applicants' claims are intended to exclude. Accordingly, it is not entirely understood as to how Sandstrom '761 is to be used to reject the Applicants' claims. It appears that the Sandstrom '761 should be suitably withdrawn from consideration.

Conclusion

It is contended that the Applicant's claims, particularly amended claim 1, which requires a tire lug and groove configured tread and sidewall structure in combination with significantly separate rubber compositions, are novel and are patentably distinct from the combination of cited references.

Respectfully submitted,


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VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A pneumatic rubber tire having a carcass with circumferential rubber tread and associated sidewalls, wherein said tread and a portion of said sidewalls, are of a lug and groove configuration designed to be ground-contacting, wherein said lug and groove configuration extends from said tread over at least thirty percent of the tire sidewall adjacent to said tread and wherein

(A) the said lug and groove configuration [configured portion] of said sidewall is of a rubber composition which comprises, based on 100 parts by weight rubber (phr),

(1) elastomers exclusive of trans 1,4-polybutadiene, 3,4-polyisoprene and high vinyl polybutadiene elastomer having a vinyl content of greater than fifty percent and comprised of

(a) about 40 to about 80 phr of cis 1,4-polyisoprene natural rubber and

(b) about 20 to about 60 phr of cis 1,4-polybutadiene rubber,

(2) about 55 to about 80 phr of reinforcing filler comprised of carbon black and precipitated silica which is comprised of

(a) about 5 to about 40 phr of carbon black having an Iodine value (ASTM D1510) of about 35 to about 85 g/kg and a dibutylphthalate (DBP) value (ASTM D2414) of about 70 to about 130 cm³/100g and

(b) about 10 to about 70 phr of precipitated silica having a BET surface area of about 125 to about 200 m²/g; wherein the weight ratio of silica to carbon black is in a range of about 0.3/1 to about 3/1 and wherein said rubber composition is exclusive of carbon blacks having an Iodine value greater than 85 g/kg, and

(3) a coupling agent having a moiety reactive with silanol groups on said silica and another moiety interactive with said elastomers, and

(B) wherein the rubber composition of said circumferential rubber tread, other than said rubber composition of said lug and groove configuration of said tire sidewall, is comprised of, based on 100 parts by weight rubber (phr):

(1) at least one diene based elastomer selected from polymers of isoprene and 1,3-butadiene and their mixtures and copolymers of isoprene, 1,3-butadiene and their mixtures with styrene,

(2) about 30 to about 95, alternately about 40 to about 75, phr of carbon black having Iodine value in a range of about 100 to about 145 g/kg and a DBD value of about 110 to about 145 cm³/100g;

wherein said tread rubber composition is exclusive of silica and coupling agent, and wherein said tread rubber composition is exclusive of carbon black reinforcement having an Iodine value of about 35 to about 85 g/kg and a dibutylphthalate (DBP value of about 70 to about 130 cm³/100g.